

AMENDMENT OF THE CLAIMS

Please amend the claims to read as follows:

1. (Currently Amended) A pretreatment process for solid sedimentary iron ore lump feed material for a direct reduction processes to reduce the formation of fines, comprising:
storing solid lump feed material in a stockpile for a predetermined time in an open atmosphere, therein releasing internal stresses of the sedimentary lump ore;
pre-drying the lump feed material to at a temperature less than 200° C and 300° C to a water content less than about 0.5% by weight prior to charging the feed material to a gas-based direct reduction furnace.
2. (Previously Presented) A process according to claim 1, wherein the predetermined time is at least one month.
3. (Cancelled)
4. (Previously Presented) A process according to claim 1, wherein said pre-drying is accomplished in a feed storage bin by introduction of waste off-gases.
5. (Currently Amended) A process according to claim 4, wherein the waste off-gas temperature is ~~less than 600° C~~ in excess of 300° C upon introduction into the feed storage bin.
6. (Original) A process according to claim 4, wherein said waste off-gases are removed from a reformer associated with the direct reduction process.
7. (Currently Amended) Apparatus for pre-drying lump iron ore and utilizing the pre-dried iron ore lump feed material, comprising:

a direct reduction shaft furnace having an upper feeding and heating portion, middle gas feeding and reducing portion, and a lower product discharge portion;

means for removing hot gas from the furnace;

reformer means for reforming removed off-gas, including means for heating the reformer by combustion of gas, and means for removing waste combusted off-gas from the reformer;

a feed material storage bin having communication with waste combusted off-gas, wherein said feed material storage bin is a heated and drying storage bin for lump iron ore until the feed material has ~~means for removing waste off-gas communicating with said storage bin for heating and drying the contents thereof to a temperature greater than 150° C and less than 200° C, 300° C~~ and a water content less than about 0.5% by weight; and

means for transporting the heated feed material to the furnace and for charging the heated feed material into the furnace for reduction.

8. (Original) Apparatus according to claim 7 wherein said feed storage bin is enclosed, and said means for transporting the heated feed material to the furnace is insulated.

9. (Previously Presented) A process according to claim 1 further comprising charging the pre-dried iron ore lump feed material into the furnace separately from any lime coated pellet feed material.

10. (Previously Presented) Apparatus according to claim 8, further comprising means for adjusting the temperature of the waste combusted off-gas between said means for removing waste combusted off-gas and said feed material storage bin.